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	Autore	Breeze Paul A
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combined cycle power plants; Natural gas; Natural gas costs; Gas turbine technology; Modern gas turbine design; Advanced gas turbine design; Reheating; Intercooling; Mass injection; Recuperation; Distributed generation; Combined cycle power plants; Micro turbines; Environmental impact of gas turbines; Nitrogen oxides; Carbon dioxide; Carbon monoxide and particulates; Financial risks associated with gas-turbine-based power projects; Technological risk
Fuel risk The cost of gas turbine power stations; End notes; 5 Combined heat and power; History; Applications; CHP technology; Piston engines; Steam turbines; Gas turbines; Micro turbines; Fuel cells; Nuclear power; Environmental considerations; Noise; Heat; Energy efficiency; Financial risks; Cost of CHP; End notes; 6 Piston-engine-based power plants; Piston engine technology; Engine size and speed; Spark-ignition engines; Compression engines; Dual fuel engines; Stirling engines; Co-generation; Combined cycle; Environmental considerations; Emission control; Carbon dioxide; Financial risks
Costs End notes; 7 Fuel cells; The fuel cell principle; Fuel cell chemistry; Catalysts; Hydrocarbon gas reformation; Types of fuel cell; Phosphoric acid fuel cell; Proton-exchange membrane fuel cell; Molten carbonate fuel cells; Solid oxide fuel cells; Environmental considerations; Financial risks; Fuel cell costs; End notes; 8 Hydropower; The hydropower resource; Hydro sites; Dams and barrages; Run-of-river project; Reservoir projects; Turbines; Impulse turbines; Reaction turbines; Francis turbine; Propeller and Kaplan turbines; Generators; Small hydropower; The environment; Inundation
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| Sommario/riassunto | Paul Breeze provides a concise and readable description of the spectrum of different power generation technologies available today, from traditional fossil fuels and the better established renewables such as wind and solar power, to emerging renewable such as biomass and geothermal energy. Technology solutions such as combined heat and power, and distributed generation are also explored. However, this book is more than just an account of the technologies - for each method the author explores the economic and environmental costs and risk factors. Those involved in planning and |